

REMARKS

Entry of the foregoing and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action Summary, claims 26-34 were pending. By the present response, claim 27 has been amended, claim 26 canceled and claim 35 added. Thus, upon entry of the present response, claims 27-35 remain pending and await further consideration on the merits.

Support for the foregoing amendments can be found, for example, in at least the following locations in the original disclosure: the original claims and the figures, e.g., Figures 1A-1C, 4 and 6, and the specification, paragraphs [0024] and [0025].

Entry of the forgoing is appropriate pursuant to 37 C.F.R. §1.116 for at least the following reasons. First, the amendments raise no new issues that would necessitate further search and/or substantive reexamination. Second, the amendments clearly overcome the grounds of rejection.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

Claims 26 stands rejected under 35 U.S.C. §102(b) as being anticipated by WO 00/18583 to Trovinger (hereafter "*Trovinger et al.*") on the grounds set forth in paragraph 2 of the Official Action. This rejection has been obviated by the cancellation of claim 26 by the present amendments. Withdrawal of the rejection is respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 27 - 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Trovinger et al.* in view of U.S. Patent No. 5,169,376 to Reis et al. (hereafter "*Reis et al.*") on the grounds set forth in paragraph 4 of the Official Action. This rejection is respectfully traversed.

The rejection of Applicants' claims as outlined in paragraph 4 of the Official Action is improper as an obviousness rejection because the rejection has failed to establish a *prima facie* case of obviousness. As outlined in M.P.E.P. §§2143-2143.03, there are three basic criteria to establish a *prima facie* case of obviousness. First, there must be a suggestion or motivation to modify the reference or to combine the teachings. Second, there must be a reasonable expectation of success for the proposed modification or combination. Third, the references must teach or suggest all of the claim limitations. For the present rejection outlined in the Official Action, at least one of the above three criteria is absent. Accordingly, the rejection is improper and should be withdrawn.

The present application is directed to a method for folding sheet material. Figures 1a to 1c illustrate an exemplary sheet folding apparatus 100 folding sheet material. The exemplary sheet folding apparatus 100 has a fold blade receptacle 114 including two flexible spring members 118 fixed to a support 120. A sheet S is feed into an area between the fold blade 104 and the receptacle 114. A clamp 108 clamps the sheet S against the fold blade 104. The fold blade 104 and the fold blade receptacle 114 are moved toward each other (Fig. 1b) to form a fold. Flexible spring members 118 flex outward to receive the sheet S and fold blade 104 and are biased

toward each other at a static pinch point. The spring bias of the flexible spring members 118 achieves a sharp fold in the sheet S.

The features and operation of the exemplary fold apparatus are generally embodied in applicant's independent claims. For example, claim 27 recites that a method for folding sheet material comprises, *inter alia*, the steps of feeding a sheet into an area between a fold blade and a fold blade receptacle, clamping the sheet against the fold blade with a clamp; and folding the sheet by moving the fold blade and the fold blade receptacle relative to one another to form a fold in the sheet by a biasing force pre-loaded in a material of the fold blade receptacle. The fold is formed by moving the fold blade receptacle relative to the fold blade such that the fold blade and the sheet material pass between two spring biased members of the fold blade receptacle at a static pinch point formed at a location where the two spring biased members are biased toward each other.

In contrast to Applicants' independent claims, the proposed combination of references do not disclose, teach or suggest a static pinch point as claimed.

Considering the disclosure in *Trovinger et al.*, it is noted that the fold flaps 230 are not spring members and do not perform a spring member function. Rather, the two portions of the fold flaps 230 are rigidly mounted to each other by an upper bar (see Fig. 15) and have multiple pinch wheel assemblies 231 mounted between the fold flaps. (See Fig. 15 and page 22).

Further considering the disclosure in *Trovinger et al.*, it is noted that the fold flaps 230 do not flex. Indeed, the mounting bar and the pinch wheel assemblies 231 between the fold flaps indicate such because if the fold flaps were to flex, e.g., flex outward from each other, the pinch wheel assemblies 231 would either prevent such

flexing by the mounting method of the pinch wheel assemblies 231, or, if the pinch wheel assemblies 231 were merely held in place by the opposing sides of the fold flaps, the pinch wheel assemblies 231 would fall out of the housing 210 under any significant flexing of the two fold flaps away from each other.

Moreover, considering the disclosure in *Trovinger et al.*, it is noted that the fold flaps have inward facing edges (see Figs. 15-17), but that these inward facing edges do not approach contacting each other or the fold blade during operation of the apparatus in *Trovinger et al.* Rather, the inward facing edges are shown as separated from each other and must be separated from each other to accommodate the pinch wheel assemblies 231.

In addition, the disclosure in *Trovinger et al.* clearly indicates that the fold flaps 230 begin the deformation of the sheet into a folded shape, but without producing a sharp fold line. For example, the disclosure in *Trovinger et al.*, page 22, second paragraph, does not include contact between the central portion of fold flap 230 and the fold blade during insertion/folding operation. Rather, the winged elongate structure of the fold flaps contacts the sheet material and the pinch wheel 232 applies pressure to the fold blade with the sheet material therebetween. Thus, the noted elements of the disclosure in *Trovinger et al.* does not fold a sheet of material but merely initiates a fold by pressing the sheet at some distance from the fold blade. Indeed, *Trovinger et al.* has further structural features such as a plurality of fold rollers 230 which create the final shape of the fold in the sheet. See *Trovinger et al.*, page 23, lines 20-24.

Turning to the disclosure in *Reis et al.*, it is respectfully submitted that this reference is itself deficient and does not contribute to overcoming the deficiencies in

Trovinger et al. It is noted that *Reis et al.* discloses rotating prefold rollers 3, 4 that rotate forming a nip. Paper is fed into the nip. The prefold rollers 3, 4 rotate to draw the paper through the rollers. During this operation, the rollers maintain their contact position with respect to the paper as the paper passes through the rollers. In other words, the paper does not move relative to the contact point on the rotating roller but rather moves in unison with the rotation of the contact point. Thus, *Reis et al.* does not disclose a static pinch point but rather a dynamic pinch point.

For example, the static pinch point of the presently claimed apparatus stationarily flexes apart as a sheet and/or fold blade pass over the surface. Thus, the friction coating used in the present application (see paragraph [0032]). In contrast, the prefold rollers 3, 4 of *Reis et al.* contact paper sheets and, as rotation occurs, maintain the contact position on the sheets. The prefold rollers 3, 4, then complete the rotation and grab another sheet feed into the nip.

Further, *Reis et al.* does not contact a fold blade with the prefold rollers 3, 4, as can be seen by the cutout in the prefold rollers to accommodate blade 5 (see Fig. 2.

From the above, it is respectfully asserted that the proposed combination does not disclose, teach or suggest all of the claim limitations. For example, there is not static pinch point disclosed, taught or suggested in the combination.

Further, it is respectfully asserted that there is no suggestion or motivation to modify the reference or to combine the teachings as proposed and, even if there where, there is no reasonable expectation of success for the proposed modification or combination. For example, what is the motivation for placing the prefold rollers 3, 4 of *Reis et al.* into the housing 210 of *Trovinger et al.* *Reis et al.* prefold rollers 3, 4

are dynamic, gripping the signatures and maintaining there position during rotation.

Trovinger et al.'s housing has rigid fold flaps 230 that move past the surface of the sheet and blade. Even if combined success would not be expected, as the gripping prefold rollers 3, 4 would tear the paper as they move past the sheet during folding with the housing and fold blade of *Trovinger et al.*.

ALLOWABLE SUBJECT MATTER

Applicants note with appreciation the indication that claims 32-34 are allowed, as noted in paragraph 5 of the Official Action.

NEW CLAIM

New claim 35 defines further distinguishing features of the presently claimed method of claim 27 and is distinguishable over the cited references for at least the same reasons as discussed above with respect to independent claim 27.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

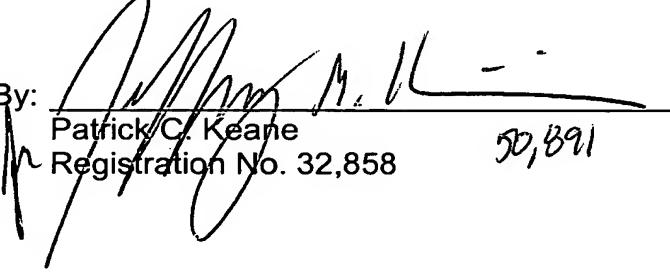
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